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ABSTRACT

This self-appraisal checklist was designed by the Ohio State Board of Education to help Ohio teachers and administrators improve secondary science programs. The checklist is organized into seven major categories which represent essential aspects of a secondary science program, including: (1) philosophy; (2) organization and administration; (3) class management and instruction; (4) staff; (5) curriculum; (6) facilities and equipment; and (7) student evaluation. (Author/CS)

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A Self-Appraisal Checklist for Science in Ohio's Elementary Schools

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Introduction

The purpose of this self-appraisal checklist is to assist Ohio teachers and administrators in their endeavors to improve elementary science programs. The checklist was prepared by the Ohio Department of Education, Division of Elementary and Secondary Education, with valuable assistance from a committee of Ohio educators brought together for this purpose.

The checklist is organized into seven major categories which represent essential aspects of an elementary science program. While the organization of the program, extent of facilities and activities available, staffing patterns, and other components of the program may vary widely among schools, the categories are represented to some degree in each school's program. The checklist, therefore, can be useful in any school in surveying and assessing the existing program and, in turn, comparing it to a quality program exemplified by the checklist items.

How To Use This Checklist

The Self-Appraisal Checklist for Science in Ohio's Elementary Schools contains 93 items. Each item represents a criterion against which a school's program can be judged. Evaluative criteria are presented in the form of statements which describe attributes of school science programs. Each statement sets forth a condition which is deemed highly desirable for a quality program. The evaluator should read carefully each statement and determine as objectively as possible the extent to which the statement describes the school's program. This appraisal should be recorded by indicating the extent to which the evaluator believes that the statement describes the school's program. This extent is indicated by circling:

4 if the evaluator *strongly agrees* that the statement describes the program.

3 if the evaluator *agrees* that the statement describes the program.

2 if the evaluator is *undecided.*

1 if the evaluator *disagrees* that the statement describes the program.

0 if the evaluator *strongly disagrees* that the statement describes the program.

A **4** rating for an item suggests that the stated attribute of the school's program is very satisfactory; a **3** rating indicates the attribute is satisfactory. A **2** rating may identify an aspect of the program which is borderline between satisfactory and unsatisfactory. A **1** rating suggests a need for program improvement, and **0** indicates that the stated attribute is missing from the program.

A *possible score* is given for each category and for the total program based upon a 4 rating for each statement. The *self-appraisal score* is the total of the ratings given by the evaluator and should be compared to the *possible score* to determine the status of each category and of the total program. The "Summary of Scores" and "Score Comparison Chart" should be used to make these comparisons.

When the checklist has been completed, needed program improvements should be identified on the basis of discrepancies between self-appraisal scores and possible scores. These needed improvements should be listed by categories. The list may then give direction to continuing efforts toward improving the quality of the elementary science program.

1. Philosophy

Possible score: 28 points

Self-appraisal score: _____ points

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

1.	A statement of philosophy specifically for science programs is available to all staff members engaged in teaching science.	4 3 2 1 0
2.	The statement of philosophy for science has been discussed or explained in staff meetings.	4 3 2 1 0
3.	The practices used in most classrooms reflect the local statement of philosophy for science.	4 3 2 1 0
4.	The science program would change if the existing philosophy statement were changed or modified substantially.	4 3 2 1 0
5.	If asked, an administrator or teacher in the building would be able to cite specific instances of the positive impact of the philosophy statement on science instruction in classrooms.	4 3 2 1 0
6.	The science philosophy in the school reflects current knowledge about science teaching.	4 3 2 1 0
7.	To implement current understanding about teaching of science, children are frequently involved in science experiments.	4 3 2 1 0

2. Organization and Administration

Possible score: 68 points

Self-appraisal score: _____ points

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

1.	Science is taught every week at each grade level.	4 3 2 1 0

2. A graded course of study in science has been approved by the State Board of Education in the past five years.	4	3	2	1	0
3. Instructional materials are selected to complement the local graded course of study.	4	3	2	1	0
4. The current program would vary considerably if the present graded course of study were not in use.	4	3	2	1	0
5. A locally developed curriculum guide is in use.	4	3	2	1	0
6. The science program is interdisciplinary exclusive of health.	4	3	2	1	0
7. Goals and objectives for science programs are directly related to the overall written goals of the educational program for the district or school.	4	3	2	1	0
8. Science-related activities are organized outside the regular weekly schedule (science fairs, science clubs, etc.).	4	3	2	1	0
9. Cooperative planning is carried out by teachers at each grade level (or across grades) for the teaching of science.	4	3	2	1	0
10. At least one staff meeting per year at the building level is devoted to the issue of science teaching involving all teachers who implement the science program.	4	3	2	1	0
11. Special assistance from outside sources has been sought to enhance the effectiveness of the science program.	4	3	2	1	0
12. Administration support is readily available for implementing or enhancing the science program.	4	3	2	1	0
13. The science program helps children acquire basic skills.	4	3	2	1	0
14. Even though some staff members are not science specialists, direct and positive efforts are made to develop a good science program.	4	3	2	1	0
15. When inservice education is planned, science-related activities are included.	4	3	2	1	0

16. If needed, teachers are free to allot additional time for science in their weekly schedules without needing to obtain formal approval from the principal. **4 3 2 1 0**

17. There is an ongoing mechanism for program evaluation in science such as standardized tests and feedback from teachers, students, and parents. **4 3 2 1 0**

3. Class Management and Instruction

Possible score: 72 points

Self-appraisal score: _____ points

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

1. The teacher-pupil ratio in science classrooms does not exceed 1 to 30. **4 3 2 1 0**
2. Time is scheduled for science programs in all classrooms. In other words, the science program is not incidental in nature. **4 3 2 1 0**
3. Instructional methodology used in science periods requires only occasional lecturing by teachers. **4 3 2 1 0**
4. Science teaching leads to frequent exploration or experimentation. **4 3 2 1 0**
5. An adequate amount of time for science is provided each week. **4 3 2 1 0**
6. Field trips pertaining to the science curriculum are conducted as needed. **4 3 2 1 0**
7. Each student is allowed to proceed at his/her own pace in science periods with teacher's advice when needed. **4 3 2 1 0**
8. Each student is allowed to pursue science-related interest areas of his/her own choosing. **4 3 2 1 0**
9. Opportunity for science instruction is provided to teachers with extra preparation, interests, or background in the subject. **4 3 2 1 0**

10.	Science instruction provides a balance between activity-oriented instruction and lecture or discussion.	4 3 2 1 0
11.	Science programs can be expanded to include the current issue of the day or month.	4 3 2 1 0
12.	Use of science films and television programs is preceded by a relevant introduction by the teacher.	4 3 2 1 0
13.	Science films and television shows are followed by activities such as suggested in accompanying teacher's guides.	4 3 2 1 0
14.	Use of resource people from the community is common in science classes.	4 3 2 1 0
15.	The science program is generally not affected because of immediate equipment needs elsewhere.	4 3 2 1 0
16.	Teachers generally expand the scope or depth of content beyond the textbooks.	4 3 2 1 0
17.	Special attention is given to hands-on activities in science classrooms.	4 3 2 1 0
18.	Interest or learning centers are provided in the classroom to stimulate interest and facilitate independent study.	4 3 2 1 0

4. Staff

Possible score: 48 points

Self-appraisal score: ____ *points*

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

1.	Classroom teachers responsible for science teaching have developed special competencies in the subject.	4 3 2 1 0
2.	Teachers are generally aware of the inquiry teaching techniques in science.	4 3 2 1 0

3.	Inservice education programs pertaining to science teaching have been initiated or attended by the staff during the past three years.	4 3 2 1 0
4.	Classroom teachers have a science resource person to consult within the building or district.	4 3 2 1 0
5.	Promising practices within one science classroom are shared or implemented by other teachers.	4 3 2 1 0
6.	Teachers follow a plan for personal and professional growth through:	
	a. Reading.	4 3 2 1 0
	b. Graduate work.	4 3 2 1 0
	c. Workshop and conferences.	4 3 2 1 0
	d. Professional science organizations.	4 3 2 1 0
7.	There is at least one classroom teacher in the building who considers science as an area of special interest.	4 3 2 1 0
8.	Encouragement is provided for developing innovative approaches to teach science.	4 3 2 1 0
9.	Special incentives are available to teachers for attending professional science-oriented meetings at the local, state, or national level.	4 3 2 1 0

5. Curriculum

Possible score: 60 points

Self-appraisal score: _____ points

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

1.	Suggestions are sought from all teachers before final decisions about the science curriculum are made.	4 3 2 1 0
2.	The main curriculum materials provided for use in classrooms include print and nonprint materials.	4 3 2 1 0

3. Consumable and nonconsumable supplies are provided for the science program.	4	3	2	1	0
4. Kits, games, and other similar instructional materials are available to teachers as needed.	4	3	2	1	0
5. An environmental education program, including outdoor education, is clearly developed and implemented.	4	3	2	1	0
6. Topics in health education supplement the science curriculum or vice versa.	4	3	2	1	0
7. Science curriculum in use is current in content and materials.	4	3	2	1	0
8. Clearly defined objectives have been developed for each topic and unit.	4	3	2	1	0
9. A provision has been made for gifted students in science programs.	4	3	2	1	0
10. Special provisions have been made in the science curriculum for handicapped students.	4	3	2	1	0
11. The science curriculum provides for process-oriented as well as content-oriented instruction.	4	3	2	1	0
12. The science curriculum makes a provision for independent activities or projects to be undertaken by students.	4	3	2	1	0
13. Supplementary library materials (print and nonprint) are available to enrich the science program.	4	3	2	1	0
14. The current science program may be characterized largely as the exploring and experimenting type.	4	3	2	1	0
15. Kindergarten through grade 12 curriculum guides are available and used.	4	3	2	1	0

6. Facilities and Equipment

Possible score: *60 points*

Self-appraisal score: _____ *points*

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

1. Classrooms are large enough to accommodate group instruction in addition to extended independent work by students.	4	3	2	1	0
2. Science classrooms generally have at least an aquarium and different types of living material.	4	3	2	1	0
3. A facility is available within the building to keep animals for observation and proper care.	4	3	2	1	0
4. The furniture design does not limit group activities in the classrooms.	4	3	2	1	0
5. Outdoor facilities are such that individual projects may be undertaken by students.	4	3	2	1	0
6. Teachers are generally not prohibited from letting children work on the classroom floor if the need arises to set up experiments.	4	3	2	1	0
7. Teachers have access to a television monitor when it is needed.	4	3	2	1	0
8. Rooms can be sufficiently darkened to project a film or other visual aids.	4	3	2	1	0
9. Sufficient storage space and fixtures are available for science supplies and equipment in or near the classrooms.	4	3	2	1	0
10. Water is available for science experiments in or near the classrooms.	4	3	2	1	0
11. The learning resource center has a sufficient collection of science materials suitable for student use.	4	3	2	1	0
12. The school subscribes to professional science education magazines for teacher use.	4	3	2	1	0
13. Science magazines are subscribed to for student use.	4	3	2	1	0

14. A current science encyclopedia is in the building and available for student use. 4 3 2 1 0

15. Adequate safety provisions have been implemented in science classrooms including proper ventilation, fire protection, eye and face protection, and appropriate storage of physical and chemical materials. 4 3 2 1 0

7. Evaluation

Possible score: 36 points

Self-appraisal score. ____ points

Circle appropriate response:

4 *Strongly agree*
3 *Agree*
2 *Undecided*
1 *Disagree*
0 *Strongly disagree*

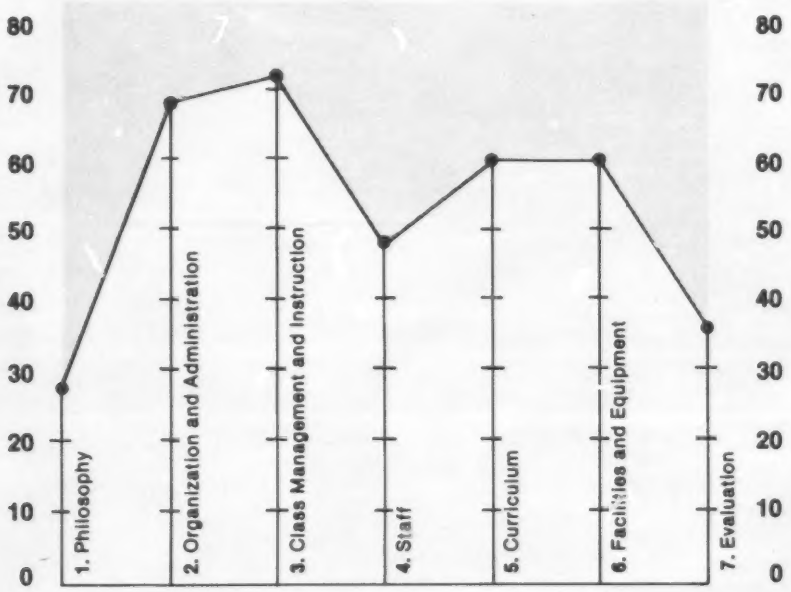
1. Teachers have been guided or encouraged to develop specific evaluation policies with regard to the optimum frequency of testing. 4 3 2 1 0
2. Various evaluation techniques are used in classrooms. 4 3 2 1 0
3. Evaluation criteria used by teachers include both subjective and objective criteria. 4 3 2 1 0
4. Teachers develop special grading criteria for those students who exhibit unique strengths or weaknesses. 4 3 2 1 0
5. Regular parent-teacher conferences are scheduled. 4 3 2 1 0
6. Parents are encouraged to visit classrooms. 4 3 2 1 0
7. If standardized tests are used in science, a thorough analysis is made to identify strengths and weaknesses in the program and teaching strategies. 4 3 2 1 0
8. Evaluation is used as a tool for identifying teaching-learning strengths and weaknesses rather than as punishment. 4 3 2 1 0
9. Basic concepts and facts to be mastered by students at each level of instruction have been delineated. 4 3 2 1 0

Summary of Scores

	Possible Score	Self-Appraisal Score
1. Philosophy	28	_____
2. Organization and Administration	68	_____
3. Class Management and Instruction	72	_____
4. Staff	48	_____
5. Curriculum	60	_____
6. Facilities and Equipment	60	_____
7. Evaluation	36	_____
Totals	372	_____

Score Comparison Chart

The dots and connected line on the graph below indicate the highest possible summary of scores. Chart your self-appraisal scores to determine strong and weak areas of your school's elementary science program.



Summary of Needed Improvements

1. Philosophy

2. Organization and Administration

3. Class Management and Instruction

4. Staff

5. Curriculum

6. Facilities and Equipment

7. Evaluation

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